

*Ames (A.)*

ABSTRACT OF A LECTURE  
BEFORE THE  
LANSING SCIENTIFIC ASSOCIATION,  
LANSING, MICHIGAN, DEC. 18, 1877,  
BY AZEL AMES, JR., M. D.,  
OF MASSACHUSETTS.

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THE COMING MODEL TOWN.

At Mead's hall on the evening of Dec. 18 a most instructive lecture was delivered by Dr. Azel Ames, Jr., of Massachusetts. He has been a special health commissioner in that state, and is the author of several standard works on the science of health. He is of medium size, compactly built, dark brown hair and beard, a very pleasant eye, and a rapid, slightly monotonous delivery. He displayed the power of crowding facts into small compass and making them "tell" in favor of his positions.

The doctor began his lecture by referring to Ponce de Leon's search for the fountain of youth in Florida, three centuries ago, and traced the relation of the later researches and progress of sanitary science to the pathways of health that lead to perennial youth. He believed that the mantle of Ponce de Leon has fallen upon the shoulders of the philanthropy of to-day, and that its pioneers have discovered some of the footpaths that lead to the wellsprings of life and youth, as attested by the lengthening span of each generation and the higher types of humanity. The

UPBUILDING OF CONDITIONS

favorable to these was held to be a work incumbent on all. Dr. Ames then proceeded to describe "the coming model town," stating that under the present knowledge of the conditions of health, it is possible to build with mathematical certainty in reference to lessening disease and mortality. It is believed that an annual mortality as low as 5 in 1,000 persons may be attained, instead

of the present average rate in populated centers of from 17 to 40; while easier burdens of life, enlarged enjoyment of health, and higher culture are rendered inevitable by the conditions which he proceeded to outline.

The aggregation of great numbers of people in cities is believed to be largely responsible for the burdens of intemperance, pauperism, insanity and crime. The productive capacities of the people are in like measure greatly impaired. Model towns *vs.* great cities are believed therefore to afford the surest avenues to the health conditions sought.

The lecturer held that while the provisions outlined for his model town might seem ideal, they are entirely within the range of possibility; and that even existing towns, by the aid of sanitary science, as at present practiced, may largely approach the standard raised. In order to attain the highest success in the establishment of a model town

NEW GROUND

is desirable. The site of our town will be responsible in a large degree for its success as an abode of health. And where not determined by inflexible causes, it will be best located on a gentle incline, having a southeastern exposure, with a background of high lands at the north, a little removed, with its water front, if any, to the west and south. If this be attainable, it will contribute materially to healthfulness, facilitating drainage, securing the largest benefit of the sun's rays, being protected

from the roughness of winter winds by the high lands at the north, which also promise a source of water-supply, while the water at the southwest will temper the heats of summer. The founding of a town on

#### LOW, SEPARATE HILLS,

overhanging marshy and wooded grounds, was shown to be especially objectionable. The city of Salapa was cited as an instance of a town of large population abandoned and removed four Roman miles to a healthier site, on account of unsanitary conditions.

The geological foundation will be of clay at its northern part and gravel at its southern or southeastern, the clay serving as a barrier and diverter of any unfavorable seepage from the higher lands. A possible water supply from the clay strata was also considered.

#### THE STREETS

are to be divided into three classes. The main thoroughfares from east to west 120 feet in width, the parallel streets at the rear of lots 40 feet in width, and the thoroughfares at right angles 100 feet in width. The road-bed in the center of main streets 60 feet wide, with sidewalks of gray stone 10 feet wide, and wide strips of greensward between the walks, and the roadway shaded by trees and ornamented by flower-beds and shrubbery; the plats opposite the respective residences being kept in prescribed order by the abutters. The roadways of the main streets will be of asphalt concrete, and the minor ones macadamized. These will be duly sprinkled in hot weather with salt water from hydrants, being supplied to them by Holly pumps. The salt water being prepared, where necessary, at the pumping station, is found to be a more profitable agent than fresh water. The streets will be regularly swept by horsepower, and the rainfall will speedily find its way into pipes provided therefor.

There being no gutters, there can be no "gutter children;" but the children will have, instead, flower-beds, greensward, fountains, and trees, and no policeman to say, "Keep off the grass."

#### OTHER IMPROVEMENTS.

Under the principal streets there will be subterranean passages large enough to carry the water, gas, sewer, telephone, and other pipes of the town, and permit the inspection and repair of each.

Only dummy-cars will run on the tramways, up one street and down another, common vehicles following in the

same direction. Parks, ball-grounds, and public squares will abound.

#### THE HOUSES

are to be built low, on brick arches, large upon the ground, without chimneys and without cellars, the kitchen being independent of the dwelling. Industrial dwellings of the highest sanitary order for the poorer working classes will exist, but the coöperative building associations will render it possible for nearly all, as at Philadelphia, to own their homes.

#### NO FENCES.

An entire absence of front and division fences will be noticeable, it being found that the annual cost of fences equals the interest on the national debt; and instead of a community being required to fence a man's cattle out, he will be required to fence them in.

The population is set at 15,000, living in 3,000 houses, on an area of 3,000 acres, an average of five persons to the acre.

#### OTHER EDIFICES.

The factories, workshops, etc., will be three or four stories high, especially adapted to their uses, and regulated by law as to their height, construction, etc. The churches, theaters, schools, banks, and other public buildings will occupy space proportionate to their character and needs, on the cross streets running north and south. The cellars of dwellings will be independent excavations, thoroughly drained, and capable of being freely opened to light and air.

The outer walls of buildings will be of glazed brick, impermeable to water, and peculiarly perforated for the circulation of air. The inner walls, also of brick, will have air-spaces between them, and the outer ones be arranged for the circulation of warm air; and they will have their room-surfaces overlaid with a calcine coat, which may be tinted in desired colors. The roofs will be covered with slate. All floors are to be of brick, laid on iron girders; those of bath-rooms and kitchens being overlaid with tiles, and those of living rooms with wood floors and hard-wood borders, being uncovered by carpets, and frequently redressed with an ozonizing mixture. All floors are arranged for the circulation of hot and cold air under them. All the sleeping apartments are large and well ventilated.

#### WATER SUPPLY.

Water everywhere abounds, and fountains, public baths, skating rinks, ice-ponds, drinking troughs, etc., are located throughout the town. Water-motors will run the ladies' sewing-machines, the



elevators of warehouses, and sprinkle the lawns. The direct or Holly system will provide both the domestic and fire-service; and the water being soft, the largest economy in the laundry and the culinary departments will be effected. Bath-rooms abound, and are fitted with the highest regard to neatness and convenience.

#### THE EXCRETA

of the town will be removed by the pneumatic or Liernur system, which, without the knowledge of the citizen, or any offense or danger, will convey the accumulations from his home to central works, where they are instantly converted into the most valuable fertilizer.

The waste waters of baths, kitchen-sinks, etc. will be conveyed by pipe-sewers to irrigation fields, south of the town; all pipes being carried through the sub-ways of the streets. The income from the fertilizer and the irrigation fields largely reimburses the cost of construction and maintenance. All vaults, cess-pools, and earth-closets are prohibited.

For the removal of the contents of vats in manufactories, etc., the lighter form of odorless excavating apparatus will be employed. The garbage of the city will be collected and removed by an ingenious and inoffensive method; and converted into fertilizers. The ashes of the town will be used in the construction of pleasure-drives, etc.

#### THE HEATING OF BUILDINGS

will be accomplished by open ventilating fireplaces of the Galton pattern, and by either or both of two general systems. To avoid the loss of fuel and heat and the dangers incident to stoves and furnaces, ~~carbonic acid~~ gas will be manufactured at central heating works and conveyed by pipes in the same manner as illuminating gas to dwellings, where it will be consumed in specially constructed furnaces, which will send their heat, through moistening apparatus, directly to apartments; or the gas will be consumed under boilers on the first floor of dwellings, impelling a circulation of hot water over coil-cells underlying each room, thus providing the means of a direct heat or a hot-water system. By another method, hot water itself is made to circulate from the boilers of the central heating-works through the dwellings. The hot-air method, on account of its immunity from freezing and its rapid action, will be applied to the heating of churches, theaters, halls, etc.; and hot water will be conveyed, both for heating and other

uses, to all dwellings. By these means, great savings in the cost of heating will be effected.

#### THE LIGHTING

of streets and dwellings will be by the use of gas and safety oils of the highest standards; the former, being purified by the iron process, the wet and dry lime methods being discarded.

#### FOOD SUPPLY.

The abattoirs, markets, provision shops, and all the food supply of our town, will be under the best regulation as to the slaughter, preparation, and preservation of meat and other articles. Only public laundries, subject to rigid regulation and laundries at home, will be permitted, that the danger of contamination from infected clothing may be avoided. Work people will not be allowed to use their homes as workshops, and thus possibly infect the community by articles manufactured there.

All public baths, water supply, drainage, markets, ice-ponds, laundries, factories, and other agencies in any way relating to the health of the community will be under the most efficient regulation of the health-officer and his assistants, who will possess the amplest powers. The hospital accommodations will be of the most improved character, and conducted in the most liberal spirit.

#### CHURCHES, SCHOOLS, AND THEATERS.

The churches will have but one creed and one object, the upbuilding of character godward. The schools will have but one aim, to fit children for usefulness on the highest plane. The theaters will be devoted to the interpretation of history and the illustration of character.

The factories will be largely coöperative, provided with all means for securing the health and safety of the operatives, and no children will be employed therein.

#### RUM AND TOBACCO

will disappear from our streets, and as a consequence, pauperism, crime, and insanity be but little known, as is the case at St. Johnsbury, Vt., where these conditions exist.

Having filled the measure of usefulness allotted to the citizen of a sublunary home, and being fitted for transplanting into higher life, our dust will return to the earth as it was, in the quiet cemeteries where nature shall receive back her own. The objections of medico-legal science and the disturbance of the equilibrium of nature's forces render it inexpedient to substitute cremation. That the

Carbonated

## SOCIAL LIFE

of our town will be of the highest order, the foregoing conditions make certain; and the knowledge that we shall build, not for ourselves alone, or secure the highest results in our own day and generation, will serve as an added incentive to our labors; while even the first generation after the establishment of our model town will in all probability reap the beneficent results already estimated, as to disease and mortality.

In conclusion, the speaker quoted

from Fiske's "Unseen world:" "As was said of Michael Angelo, who saw in his block of Carrara marble his imprisoned Moses, and only knocked away the en-  
 vironing marble and brought him out," so we, beholding the ideal town in the possibilities of science, hasten only to knock away the obstacles that stand in the way of its glorious accomplishment, believing with the caliph of Bagdad, that "he only serves God acceptably who makes himself useful to his fellow men."